

**UNITED STATES DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE**

**ECOLOGICAL SITE DESCRIPTION**

**ECOLOGICAL SITE CHARACTERISTICS**

**Site Type:** Rangeland

**Site ID:** R070XB070NM

**Site Name:** Very Shallow

**Precipitation or Climate Zone:** 13 to 16 inches

**Phase:**

## **PHYSIOGRAPHIC FEATURES**

### **Narrative:**

This site is on nearly level to gently undulating soils of the upland. Slopes range from 0 to 5 percent. Exposure varies and is not significant. Elevation ranges from 4,400 to 6,000 feet above sea level.

### **Land Form:**

1. Hillside

2.

3.

### **Aspect:**

1. N/A

2.

3.

	<b>Minimum</b>	<b>Maximum</b>
<b>Elevation (feet)</b>	4,400	6,000
<b>Slope (percent)</b>	0	5
<b>Water Table Depth (inches)</b>	N/A	N/A
<b>Flooding:</b>	<b>Minimum</b>	<b>Maximum</b>
<b>Frequency</b>	N/A	N/A
<b>Duration</b>	N/A	N/A
<b>Ponding:</b>	<b>Minimum</b>	<b>Maximum</b>
<b>Depth (inches)</b>	N/A	N/A
<b>Frequency</b>	N/A	N/A
<b>Duration</b>	N/A	N/A

### **Runoff Class:**

Medium to high.

## **CLIMATIC FEATURES**

### **Narrative:**

The climate of this area can be classified as “semi-arid continental”.

Annual average precipitation ranges from 13 to 16 inches. About seventy eight percent of the moisture usually falls during the six-month period of May through October. Most of this summer precipitation falls in the form of brief and heavy afternoon and evening thunderstorms. Hail may accompany the more severe summer storms. In the winter, there is normally only one day a month when as much as one-tenth inch of moisture falls, usually in the form of snow. Snow seldom lies on the ground for more than a few days.

Temperatures are characterized by a distinct seasonal change and large annual and diurnal temperature ranges. Summers are moderately warm. Maximum temperature average above 90 degrees F from July to August and an average summer includes about 80 days with high readings exceeding 90 degrees F and 10 days with readings above 100 degrees F. Temperatures usually fall rapidly after sundown and low of 60 degrees F on most summer nights. Winters are mild, sunny and dry. Daytime shade temperatures in midwinter usually rise to the 50's. However, freezing temperatures normally occur at night from mid-November to mid-March.

The freeze-free season ranges from 190 to 197 days. Dates of the last freeze are April 11<sup>th</sup> to April 17<sup>th</sup> and the first freeze varies from October 20<sup>th</sup> to October 25<sup>th</sup>.

Both temperature and rainfall distribution favor warm-season, perennial plant communities in the area. However, sufficient late winter and early spring moisture allows a cool-season species to occupy a minor component within the plant community

Climate data was obtained from <http://www.wrcc.sage.dri.edu/summary/climsmnm.html> web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

	<b>Minimum</b>	<b>Maximum</b>
<b>Frost-free period (days):</b>	164	196
<b>Freeze-free period (days):</b>	190	218
<b>Mean annual precipitation (inches):</b>	13	16

**Monthly moisture (inches) and temperature (°F) distribution:**

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	0.23	0.46	21.6	57.3
February	0.30	0.44	24.0	59.2
March	0.46	0.65	29.1	68.0
April	0.36	0.92	36.3	78.3
May	0.42	1.68	45.7	82.6
June	1.20	1.86	52.2	91.2
July	2.03	2.73	59.1	92.9
August	2.09	2.75	58.1	91.0
September	1.65	1.92	51.1	84.8
October	1.23	1.93	40.1	74.7
November	0.46	0.88	28.9	63.0
December	0.37	0.62	22.1	54.6

**Climate Stations:**

Station ID	Location	Period	
		From:	To:
290205	Alamogordo Dam, NM	1972	2000
293292	Fort Sumner, NM	01/01/14	2000
297254	Ramon 8SW, NM	03/04/57	122/31/01
298596	Sumner Lake, NM	01/01/21	12/31/01
299851	Yeso, NM	01/01/48	12/31/01

**INFLUENCING WATER FEATURES****Narrative:**

This site is not influenced by water from a wetland or stream.

**Wetland description:**

System	Subsystem	Class
N/A		

**If Riverine Wetland System enter Rosgen Stream Type:**

N/A

## **REPRESENTATIVE SOIL FEATURES**

### **Narrative:**

The soils are well drained, shallow to very shallow over hard caliche. The surface textures vary from very gravelly fine sandy loam, very gravelly loam 6 to 14 inches thick. Permeability is moderate to moderately slow and the available water-holding capacity is low to medium. Surface runoff is high. Wind erosion hazard is moderate and water erosion hazard could be high.

**Parent Material Kind:** Alluvium

**Parent Material Origin:** Mixed

### **Surface Texture:**

1. Very gravelly fine sandy loam
2. Gravelly fine sandy loam
3. Very gravelly loam
4. Very gravelly loamy fine sand

### **Surface Texture Modifier:**

1. Gravel
2.
3.

**Subsurface Texture Group:** Loamy

**Surface Fragments  $\leq 3''$  (% Cover):** 35 to 60

**Surface Fragments  $> 3''$  (% Cover):** N/A

**Subsurface Fragments  $\leq 3''$  (% Volume):** 35 to 60

**Subsurface Fragments  $\geq 3''$  (% Volume):** 15 to 35

	<b>Minimum</b>	<b>Maximum</b>
<b>Drainage Class:</b>	<u>Well</u>	<u>Well</u>
<b>Permeability Class:</b>	<u>Moderately slow</u>	<u>Moderately rapid</u>
<b>Depth (inches):</b>	<u>&lt;10</u>	<u>14</u>
<b>Electrical Conductivity (mmhos/cm):</b>	<u>0.00</u>	<u>2.00</u>
<b>Sodium Absorption Ratio:</b>	<u>N/A</u>	<u>N/A</u>
<b>Soil Reaction (1:1 Water):</b>	<u>7.9</u>	<u>8.4</u>
<b>Soil Reaction (0.1M CaCl<sub>2</sub>):</b>	<u>N/A</u>	<u>N/A</u>
<b>Available Water Capacity (inches):</b>	<u>3</u>	<u>9</u>
<b>Calcium Carbonate Equivalent (percent):</b>	<u>N/A</u>	<u>N/A</u>

## **PLANT COMMUNITIES**

### **Ecological Dynamics of the Site:**

### **Plant Communities and Transitional Pathways (diagram)**

**Plant Community Name:** Historic Climax Plant Community

**Plant Community Sequence Number:** 1 **Narrative Label:** HCPC

**Plant Community Narrative:** Historic Climax Plant Community

This site is a grassland dominated by warm-season short and mid-grasses dotted with shrubs and half-shrubs. Forbs and woody species make up less than 20 percent of the plant community and are evenly distributed. Cool-season grasses and forbs make up a minor component of the community.

Canopy Cover:

Trees	0
Shrubs and half shrubs	3 – 5 %
Ground Cover (Average Percent of Surface Area).	
Grasses & Forbs	20 – 30
Bare ground	25 – 35
Surface gravel	10 – 15
Surface cobble and stone	0
Litter (percent)	10 – 12
Litter (average depth in cm.)	2

**Plant Community Annual Production (by plant type):** \_\_\_\_\_

Plant Type	Annual Production (lbs/ac)		
	Low	RV	High
Grass/Grasslike	340	680	1,020
Forb	32	64	96
Tree/Shrub/Vine	28	56	84
Lichen			
Moss			
Microbiotic Crusts			
Total	400	800	1,200

## **Plant Community Composition and Group Annual Production:**

### **Plant Type - Grass/Grasslike**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	BOER4	Black Grama	120 – 160	120 – 160
2	BOGR2 BOHI2	Blue Grama Hairy Grama	80 – 120	80 – 120
3	HENE5	New Mexico Feathergrass	80 – 120	80 – 120
4	SPCR	Sand Dropseed	40 – 80	40 – 80
5	BOCU	Sideoats Grama	40 – 80	40 – 80
6	LYPH	Wolftail	40 – 80	40 – 80
7	ARIST	Threeawn spp.	24 – 40	24 – 40
8	MUTO2	Ring Muhly	24 – 40	24 – 40
9	SCSC BOBA BOSA	Little Bluestem Cane Bluestem Silver Bluestem	24 – 40	24 – 40
10	2GRAM	Other Grasses	24 – 40	24 – 40

### **Plant Type - Forb**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
11	ERIOG CRPOP SPHAE	Buckwheat spp. Leather Croton Globemallow spp.	24 – 40	24 – 40
12	VEPO4 SEBA3 ASCLE 2FORB	Verbena Twinleaf Milkweed spp. Other Forbs	24 – 40	24 – 40

### **Plant Type – Tree/Shrub/Vine**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
13	ACGR EPVI	Catclaw Acacia Mormon-tea	24 – 40	24 – 40
14	YUCCA GUSA2 2SD	Yucca spp. Broom Snakeweed Other Shrubs	24 – 40	24 – 40

### **Plant Type - Lichen**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production



**Plant Type - Moss**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

**Plant Type - Microbiotic Crusts**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Other species that could appear on this site include: fall witchgrass, Hall's panicum, western wheatgrass, ring muhly, mat muhly, plains bristlegrass, Arizona cottontop, feather dalea, fourwing saltbush, winterfat, sagebrush spp., woolly Indianwheat, New Mexico thistle, Canada thistle, annual mustards, fetid marigold and dyssodia.

**Plant Growth Curves**

Growth Curve ID 4019NM

Growth Curve Name: HCPC

Growth Curve Description: Warm-season short and mid-grass grassland with minor components of shrubs and forbs.

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	3	5	5	10	25	30	15	7	0	0

## **ECOLOGICAL SITE INTERPRETATIONS**

### **Animal Community:**

Habitat for Wildlife:

This site provides habitat, which supports a resident animal community that is characterized by pronghorn antelope, black-tailed jackrabbit, spotted ground squirrel, plains pocket mouse, southern plains wood rat, horned lark, scaled quail, side blotched lizard and round-tailed horned lizard.

### **Hydrology Functions:**

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

#### **Hydrologic Interpretations**

<b>Soil Series</b>	<b>Hydrologic Group</b>
Kolar	D
Lozier	D
Neso	D

### **Recreational Uses:**

Recreation potential on this site is limited. Suitability for camping, picnicking and hiking is fair, limited mainly by lack of water and shade. Hunting is good for antelope, quail, dove and small game. Trapping for fur-bearing animals is good. The terrain typical of the “wide open spaces” of the area enhances aesthetic appeal. The natural beauty of this site is enhanced by the large variety of flowering plants that bloom from early spring to late fall with the availability of precipitation.

### **Wood Products:**

This site produces no wood products.

**Other Products:****Grazing:**

All classes and kinds of livestock can graze this site during any season of the year.

Approximately 90 percent of the total yield are from species that furnish forage for grazing animals. These species are a large variety of grasses and forbs, which provide good forage and nutrition for grazing animals during most of the year. Continuous yearlong grazing or continual grazing during the period from April through October will cause the site to deteriorate and become less productive. Species such as black grama, sideoats grama, New Mexico feathergrass and little bluestem will decrease in composition. This will also cause an increase in the composition of species like threeawn, sand dropseed, blue grama, yucca and broom snakeweed.

A system of grazing, which rotates the season of use will maintain or improve the composition of the plant community. If this site continues to deteriorate, there will be severe water erosion hazard that can destroy the site and take extensive structural work to correct.

**Other Information:****Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month****Similarity Index****Ac/AUM**

100 - 76

2.7 – 3.7

75 – 51

3.5 – 5.3

50 – 26

5.0 – 10.0

25 – 0

10.0+

Plant Part	Code	Species Preference	Code
Stems	S	None Selected	NS
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruits/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

**Plant Preference by Animal Kind:**

**Animal Kind:** Livestock  
**Animal Type:** Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Black Grama	Bouteloua eriopoda	EP	P	P	P	D	D	D	D	D	D	D	P	P
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
New Mexico Feathergrass	Hesperostipa neomexicana	EP	D	D	D	P	P	P	D	D	D	D	D	D
Little Bluestem	Schizachyrium scoparium	EP	D	D	D	D	P	P	P	P	P	D	D	D
Sand Bluestem	Andropogon hallii	EP	D	D	D	D	P	P	P	P	P	D	D	D
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	U	D	D	D	U	U	D	D	D	U
Vine-mesquite	Panicum obtusum	EP	D	D	D	D	D	D	D	D	D	D	D	D

**Animal Kind:** Livestock  
**Animal Type:** Sheep

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Black Grama	Bouteloua eriopoda	EP	D	D	D	P	P	P	P	P	D	D	D	D
Sideoats Grama	Bouteloua curtipendula	EP	D	D	D	P	P	P	P	P	D	D	D	D
Bigelow Sagebrush	Artemisia bigelovii	L/S	D	D	D	D	D	D	D	D	D	D	D	D
Globemallow	Sphaeralcea spp.	EP	U	U	U	D	D	D	D	D	D	U	U	U

**Animal Kind:** Wildlife  
**Animal Type:** Antelope

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Leather Croton	Pottsii pottsii	EP	D	D	D	D	D	D	D	D	D	D	D	D
Globemallow	Sphaeralcea spp.	EP	U	U	U	D	D	D	D	D	D	U	U	U

## **SUPPORTING INFORMATION**

### **Associated sites:**

Site Name	Site ID	Site Narrative

### **Similar sites:**

Site Name	Site ID	Site Narrative

### **State Correlation:**

This site has been correlated with the following sites: \_\_\_\_\_

### **Inventory Data References:**

Data Source	# of Records	Sample Period	State	County

### **Type Locality:**

State: New Mexico

County: De Baca, Guadalupe

Latitude: \_\_\_\_\_

Longitude: \_\_\_\_\_

Township: \_\_\_\_\_

Range: \_\_\_\_\_

Section: \_\_\_\_\_

Is the type locality sensitive?    Yes ☐        No ☐

General Legal Description: \_\_\_\_\_

### **Relationship to Other Established Classifications:**

### **Other References:**

Data collection for this site was done in conjunction with the progressive soil surveys within the Pecos-Canadian Plains and Valleys 70 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: San Miguel, Quay, Guadalupe, De Baca and Chaves.

### **Characteristic Soils Are:**

Kolar	Lozier
Neso	

### **Other Soils included are:**

--	--

### **Site Description Approval:**

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Don Sylvester	07/26/78	Don Sylvester	07/26/78

### **Site Description Revision:**

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Elizabeth Wright	12/10/02	George Chavez	2/11/03